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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Kiyofumi Abe

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EXAMINER

TORRENTE, RICHARD T

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

04/02/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/501,001	Applicant(s) ABE ET AL.	
	Examiner RICHARD TORRENTE	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-57 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 44-57 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure(s) 6, 10, 19 and 27 is/are objected to as depicting a block diagram without "readily identifiable" directional flow of each block, as required by 37 CFR 1.84(n). Rule 84(n) requires "labeled representations" of graphical symbols, such as arrow heads; and any that are "not universally recognized may be used, subject to approval by the Office, if they are not likely to be confused with existing conventional symbols, and if they are readily identifiable." In the case of Figure(s) 6, 10, 19 and 27, the directional flow of the blocks are not readily identifiable per se and therefore require the insertion of arrow heads identifying the flow of those blocks.

2. Figures 35-41B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure

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number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and descriptive, preferably from two to seven words may not contain more than 500 characters.
- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:

3. The disclosure is objected to because of the following informalities: No Cross-References to Related Applications for claiming benefit of earlier Priority is mentioned in the first paragraph of the disclosure. Appropriate correction is required.

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Field/Frame Adaptive Coding and Decoding Method with Field/Frame Index.

DETAILED ACTION

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim(s) 44-49 and 51-56 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. For example, the “generating a sequence”, “specifying a reference”, etc. method is of sufficient breadth that it would be reasonably interpreted as

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

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a series of steps completely performed mentally, verbally or without a machine. The applicant has provided no explicit and deliberate definitions of “generating a sequence”, “specifying a reference”, etc. to limit the steps to the electronic form of the “a method for coding”.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

7. Claims 51 and 56 are rejected under 35 U.S.C. 102(a) as being anticipated by Applicant Admitted Prior Art (AAPA).

Regarding claim 51, AAPA discloses coding method for coding a block (see fig. 37) while switching between frame coding and field coding adaptively on a block-by-block basis (see P [0012]), said method comprising: generating a sequence of commands (see “command” in fig. 38) for assigning each of frame-indices (see “reference index” in fig. 38) for frame coding to respective reference frames (see “picture number” in fig. 38); specifying a reference frame (see P and B in fig. 38) which is referred to when a block is coded (see fig. 38), using a frame-index for frame coding assigned by the sequence of commands (e.g. see “First reference index” in fig. 38), in the case where frame coding is performed on the block (see fig. 41A); specifying a

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reference field (see fig. 41B) which is referred to when the block is coded, using a field-index (see “index” in fig. 38, where P [0004]-[0005] indicates the similar index is applicable as shown in fig. 41B) for field coding which is generated using the frame-index, in the case where field coding is performed on the block (see fig. 41B); coding, as a reference index (see “index” in fig. 38), the frame-index which is used for specifying the reference frame, in the case where frame coding is performed on the block (see P1-P3 in fig. 41A); and coding, as a reference index (e.g. see “index” in fig. 38), the field-index (see P1T-P3B in fig. 41B) which is used for specifying the reference field, in the case where field coding is performed on the block.

Regarding claim 56, the claim(s) recite analogous limitations to claim 51, and is/are therefore rejected on the same premise.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 44, 49 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA).

Regarding claims 44, 49 and 50, although AAPA discloses analogous limitations to claim 51, it is noted that AAPA differs from the present invention in that it fails to particularly disclose a decoder to generate the analogous limitations. However, one of ordinary skill in the art would have had no difficulty in recognizing that the entire process of decompressing and decoding any compressed and coded signal is merely the reverse procedure of the encoding process, as clearly disclosed in AAPA (see P [0007]). Furthermore, it should be self evident to one skilled in the art from the teaching of AAPA that the adaptive predictive encoder is an art-recognized equivalent structure to an adaptive predictive decoder and is designed to be used along with a similar but in reverse sequence predictive decoder.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, having the reference of AAPA before him/her, to flexibly apply the reverse processing steps of the encoder of AAPA in a similarly designed decoder in order to be able to accurately decode any video signal that was compression encoded using the same predictive coding technique.

10. Claims 45-48, 52-55 and 57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted Prior Art (AAPA) in view of NPL Draft ITU-T Rec. H.264 (IDS).

Regarding claim 52, AAPA further discloses wherein said specifying of the reference field includes: specifying, as the field-index, a doubled value of a value of the

frame-index (see frame indices fig. 41B doubles fig. 41A) which is used for specifying a reference frame including the reference field, in the case where the reference field has a same parity as a parity of a field including the block to be coded (see fig. 41B).

AAPA does not disclose specifying a value obtained by adding one to the doubled value of the value of the frame-index in the case where the reference field has a different parity from the parity of the field including the block to be coded.

However, NPL discloses specifying a value obtained by adding one to the doubled value of the value of the frame-index in the case where the reference field has a different parity (see page 54, section 8.3.6.2).

Given the teachings as a whole, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate NPL teachings of reference picture numbering into AAPA reference picture numbering for the benefit of managing reference picture buffer for processing.

Regarding claim 53, AAPA further discloses comprising: coding information indicating a maximum number of frame-indices (see "Max_idx" in fig. 39) for frame coding; and determining a maximum number of field-indices (see "Max_idx" in fig. 39 and see P [0004]-[0005]) for field coding to be double a value (see frame indices fig. 41B doubles fig. 41A) of the maximum number of frame-indices for frame coding, wherein said specifying of the reference field for field coding includes determining the field-index so that the number of specified reference fields is not greater than the

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determined maximum number of field-indices (see even count index and reference in fig. 41B).

Regarding claim 54, the claim(s) recite analogous limitations to claim 53, and is/are therefore rejected on the same premise.

Regarding claim 55, the claim(s) recite analogous limitations to claim 52, and is/are therefore rejected on the same premise.

Regarding claim 57, the claim(s) recite analogous limitations to claims 51 and 52, and is/are therefore rejected on the same premise.

Regarding claims 45-48, AAPA, now incorporating the method of NPL, recite analogous limitations to claims 52-55, and is/are therefore rejected on the same premise.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RICHARD TORRENTE whose telephone number is (571) 270-3702. The examiner can normally be reached on M-F: 7:30 - 5:00 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Richard Torrente/
Examiner, Art Unit 2621

/Young Lee/
Primary Examiner, Art Unit 2621

RT